REMARKS

Applicants submit this Reply to Office Action in response to the Final Office Action mailed March 29, 2010. Prior to this response, claims 47 and 50-106 were present in the application. Of those, claims 85-106 have been withdrawn from consideration as being directed to non-elected subject matter. Thus, claims 47 and 50-84 have been examined on the merits. By this Reply, Applicants have amended independent claim 47. No new matter has been added.

In the Final Office Action, the Examiner rejected claims 47 and 50-84 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,711,904 ("Eswaran") in view of U.S. Patent No. 4,814,130 ("Shiromatsu").

By this Amendment, Applicants respectfully request amendment of independent claim 47 to recite, among other things:

> A process for producing tires including continuously producing tire elastomeric composition, comprising: . . . .

Support for this amendment can be found in Applicants' specification at least at page 1, lines 9-11 and page 25, lines 25-35.

Applicants respectfully traverse the pending claim rejection for at least the reasons outlined below.

Rejection Under 35 U.S.C. § 103(a)

The Examiner rejected claims 47 and 50-84 under 35 U.S.C. § 103(a) as being unpatentable over Eswaran in view of Shiromatsu. However, a *prima facie* case of obviousness, some requirements of which are discussed below, has not been established for each rejected claim as amended.

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must disclose all of the claim limitations, or the claim rejection must explain why the differences between the prior art and the claim limitations would have been obvious to one of ordinary skill in the art. *See* M.P.E.P. § 2141.

A *prima facie* case of obviousness has not been established because, among other things, neither Eswaran or Shiromatsu, alone or in combination, teaches or suggests every feature of Applicants' amended claims. Specifically, neither reference cited by the Examiner teaches or suggests, "[a] process for producing tires including continuously producing tire elastomeric composition," as recited in amended independent claim 47.

In the Office Action, the Examiner essentially asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the extruder and static mixer of Shiromatsu for the second mixing device of Eswaran, because: (1) both Shiromatsu and Eswaran relate to the mixing and extruding of elastomeric compositions; and (2) the static mixer of Shiromatsu would allow for a uniform decrease in temperature of the mixed composition prior to discharge. However, Applicants respectfully disagree with the Examiner's characterizations of the cited references.

First, Shiromatsu never discloses that the "polymer" to be processed is a tire elastomeric composition, which presents *per se* particular difficulties in terms of ingredient dispersion as is well known in the art and as is explained in the introductory part of the present specification). In sharp contrast, Shiromatsu relates to a method of manufacturing an extruded product of a fire-retardant silane crosslinked polyolefin

composition and, more particularly, to a method of manufacturing an extruded product (e.g., a fire-retardant crosslinked polyolefin insulated wire) of a fire-retardant crosslinked polyolefin composition by silicone grafting. *See* Shiromatsu at col. 1, lines 7-13. In view of the amendments to independent claim 47, which clarify that the invention concerns a process for manufacturing a tire including continuously producing a tire elastomeric composition, Shiromatsu should be considered non-analogous art, so that a person skilled in the art would have had no reasonable motivation to consider the teachings of Shiromatsu when trying to manufacture a tire and attempting to solve the stated problem of ensuring an excellent uniformity of the physical-chemical properties of a different composition of matter, i.e. an tire elastomeric composition including at least one filler and optionally other minor ingredients, exiting from an extrusion apparatus.

Second, even assuming, *arguendo*, that one of ordinary skill in the art would be led to consider Shiromatsu, no one skilled in the art would combined Eswaran and Shiromatsu in the manner proposed by the Examiner, i.e., use the extruder and static mixer apparatus of Shiromatsu for the second mixing device of Eswaran, with a reasonable expectation of success.

In fact, Eswaran clearly and consistently teaches that in order to achieve the desired very homogeneous silica dispersion in the rubber composition, a twin-screw extruder or a sequence of twin-screw extruders must be used in order to properly mix all the productive compounds necessary to make the tire tread. See Eswaran, e.g., col. 4, lines 6-33; col. 5, lines 27-30; col. 6, lines 24-27; col. 8, lines 48-61; col. 9, lines 14-37; col. 10, lines 3-7; col. 12, lines 24-28; claims 5, 7, and 8, and Figures 2 and 4.

In view of these teachings, a person skilled in the art would have considered the single-screw extruder of Shiromatsu as technically unsuitable to achieve the desired mixing action within the framework of the tread manufacturing process taught by Eswaran, so that the replacement of the second mixing device (twin-screw extruder) of Eswaran with the single-screw extruder and static mixer apparatus of Shiromatsu would have rendered the tread manufacturing process of Eswaran unsuitable for its intended purpose. As a result, a person skilled in the art would have considered that the combination suggested by the Examiner had no reasonable expectation of success.

Finally, we observe that even by combining Eswaran and Shiromatsu, contrary to any reasonable motivation to do so, such a combination does not in any case lead to a process comprising "passing the resulting cooled elastomeric composition through at least one static mixer," as recited in amended independent claim 47, since the static mixer of Shiromatsu is incorporated in the extruder and located immediately downstream of the single screw thereof and since the extruder is operated to intensively mix and heat any material fed thereto, with the consequence of re-heating any cooled elastomer coming from the first twin-screw extruder of Eswaran (*see* Shiromatsu examples 1-4 which make clear that the temperature of the material fed to the static mixer – which is a cooling device within the framework of the teachings of Shiromatsu – is raised by the single screw up to 200°C). Thus, a person skilled in the art would never have arrived at the claimed invention, even under the combination suggested by the Examiner.

Accordingly, and for the foregoing reasons, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of amended independent claim 47 under 35 U.S.C. § 103(a).

Moreover, claims 50-84 depend from claim 47 and, thus, contain all the elements and limitations thereof. Accordingly, dependent claims 50-84 are allowable at least due to their corresponding dependence from independent claim 47.

Claim Scope

It is to be understood that Applicants are in no way intending to limit the scope of the claims to any exemplary embodiments described in the specification or abstract and/or shown in the drawings. Rather, Applicants believe that they are entitled to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation, and applicable case law.

CONCLUSION

In view of the foregoing, Applicants respectfully request reconsideration and reexamination of this application, and the timely allowance of the pending claims.

If the Examiner believes that a telephone conversation might advance prosecution of this application, the Examiner is cordially invited to call Applicants' undersigned attorney at (404) 653-6435.

Applicants respectfully note that the Office Action contains a number of assertions concerning the related art and the claims. Regardless of whether those assertions are addressed specifically herein, Applicants respectfully decline to automatically subscribe to them.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: September 29, 2010

By: _____
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